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(54) Garden tool

(57) A garden tool comprises a pole 1, an operating means 4 which may be in the form of a handle and trigger, as shown, and digging and gripping means 2 shown in the form of two tines 13 14 held apart by a spring 20. Additionally, a bracket or extra tool 17 may be added to one end of the pole to enable the tool to be used for other purposes or to act as a fulcrum. An extension tube 10 and cuff 11 may be added to the other end to aid supporting the tool with one arm. The tine 14 is moved by means of a cord 3 coupled to trigger 22. The pole may comprise telescopic tubes 6, 7 making it adjustable to the user's height, the cord 3 then also being adjustable. In a further embodiment, the tine 14 is moved by means of a rod coupled to a handgrip slidable on the pole.

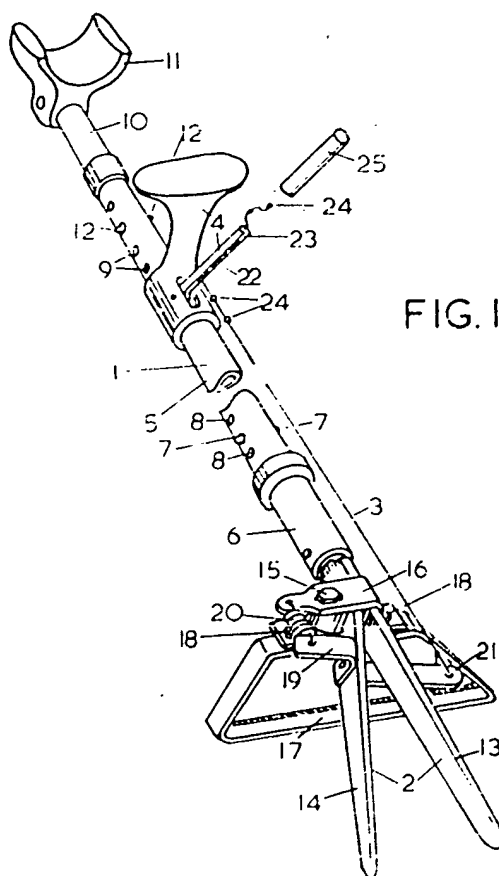


FIG. 1

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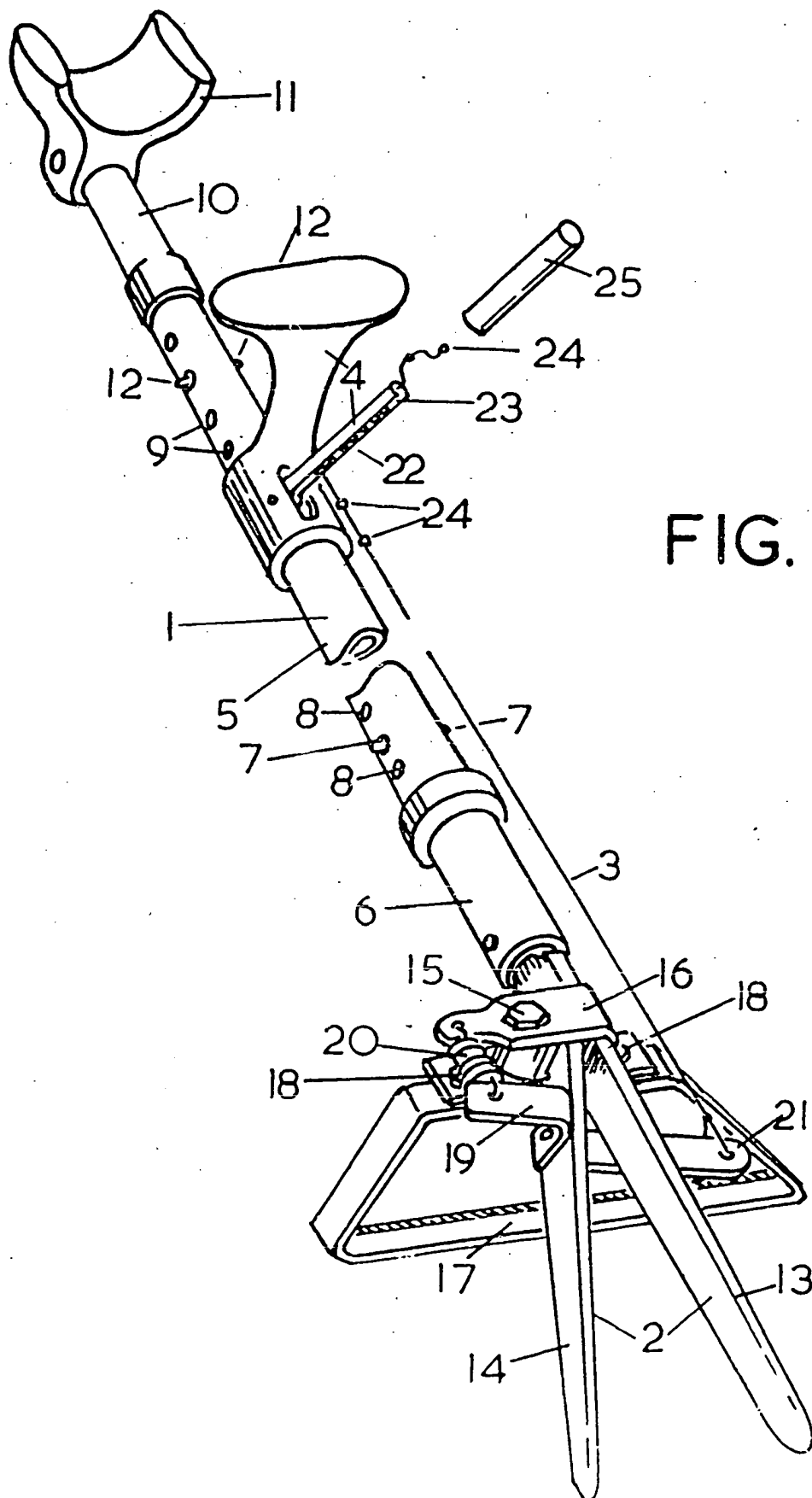
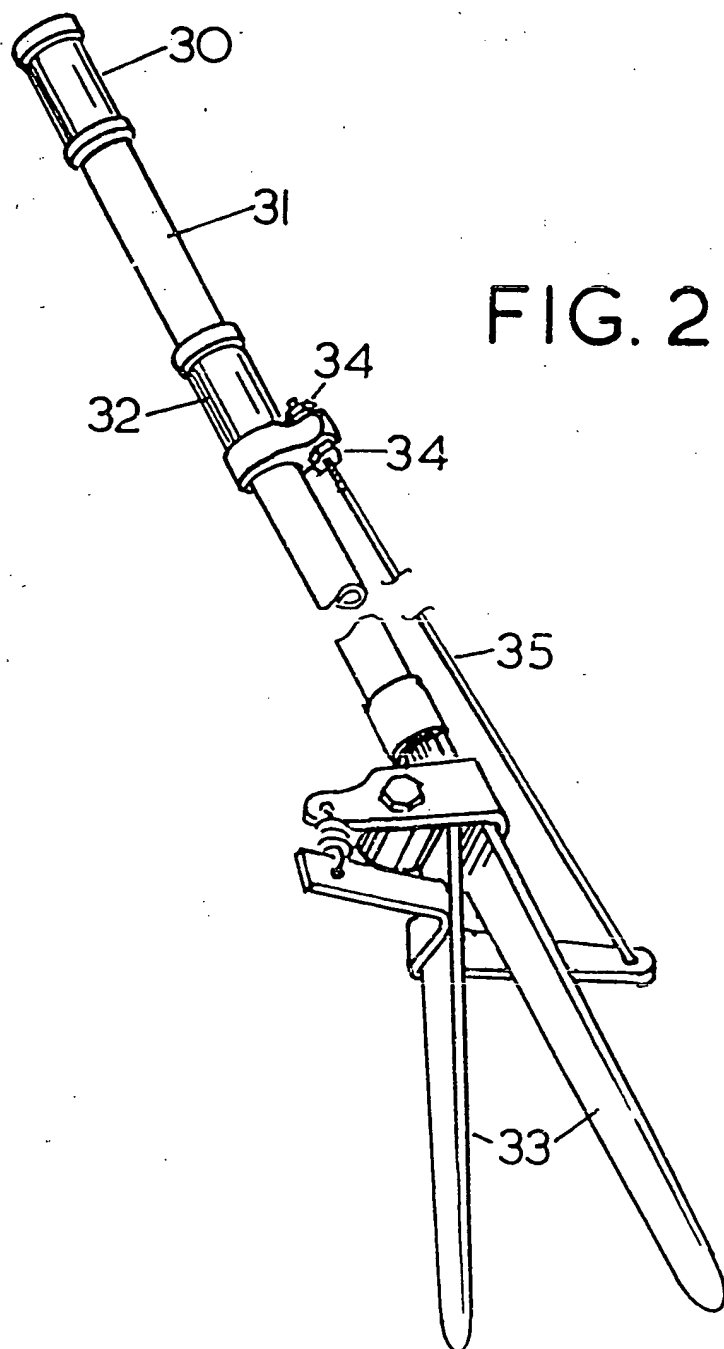


FIG. 1

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## SPECIFICATION

## A gardening tool

5 This invention relates to a gardening tool. It is particularly useful for those who cannot bend from the waist.

Traditionally, the planting out and tending of vegetables and flowers in small gardens has been done by the gardener on his knees using hand tools. Even when he uses longer handled tools such as hoes, he still has to bend down to pick up the weeds, or get another tool to help him do this.

10 It is the object of this invention to make the tending of small gardens easier by enabling many tasks to be done with one tool and without the gardener having to bend his body.

According to this invention a garden tool comprises a pole, a digging means and a gripping means, there being an operating means remote from and coupled to the gripping means by a connecting means.

Preferably the length of the pole is made such that it can be adjusted to suit the height of the person using the tool.

25 In one embodiment of the invention the pole is constructed so as to take a cuff, similar to those used in elbow crutches but more open, so as to provide extra support when lifting the tool, without constricting its use when digging.

30 The digging means comprises one or more tines attached to the end of the pole. These may be in line with the centre-line of the pole, but in one embodiment of the invention, one or more are fitted at an angle to this centre-line.

35 Preferably the ends of the tines should come to a rounded point, so that they may easily penetrate the soil and slide between seedlings when used for thinning.

The gripping means comprises two or more parts which may be caused to come together. In one embodiment of the invention the tines are used also for the parts of the gripping means.

40 Preferably the gripping means operates in a different plane from the digging means. In one embodiment of the invention there is a ninety degree angle between these planes.

The operating means comprises two pieces which are moved relative to each other in order to remotely operate the gripping means via the connecting means.

50 Preferably the two pieces comprise a pistol grip and trigger, but in one embodiment two handles are used, one fixed to the pole and one sliding parallel with the axis of the pole. In yet another embodiment the two pieces move relative to the pole, and move relative to each other.

In some embodiments of the invention an additional structure is fitted near the digging means, which may be used as an aid when digging or levering. This may take the form of a bracket to be used as a fulcrum. But 60 in another embodiment it may take the form of

another tool such as a rake or hoe.

The connecting means consists of a cord stretched between one or more parts of the gripping means and one or more pieces of the operating means. An 65 adjusting means is provided so that the length of the connecting means can be altered when the pole length is changed. In another embodiment the connecting means consists of a rod in place of the cord. The rod is threaded so that by rotating one or more nuts on it, its 70 effective length may be altered. The connecting means may then operate under compression.

The invention will now be described by way of example only with reference to the accompanying drawing in which:—

75 Figure 1 shows in perspective a garden tool.

Figure 2 shows another embodiment of the garden tool.

In Figure 1 is shown a gardening tool having a tubular pole 1, a digging and gripping means 2 80 connected by a connecting means 3 to an operating means 4.

The pole is in two telescopic parts 5 and 6 which provide a length adjustment by moving spring plungers 7, fitted in tube 6, between holes 8 in tube 5. The 85 part of the pole 5 also has holes 9 enabling an additional tube 10 and open-shaped cuff 11 to be fitted and positioned using spring plungers 12.

The digging and gripping means comprise a fixed tine 13 and another tine 14 which is hinged about a 90 bolt 15 passing through the scrolled end of the tine. A bracket 16, attached to tine 13, supports the bolt 15, so forming part of a hinge for tine 14.

Another bracket 19, is attached to tine 14. One end of this bracket is joined by a spring 20 to bracket 16. The 95 spring 20 holds tine 14 apart from tine 13, unless a cord 3 pulls on the end 21 of the bracket 19.

On the underside of the bracket 16 is fitted a hoe 17 attached by two bolts 20. Alternatively, another tool, such as a rake, may be fitted here, or just a bracket as a 100 fulcrum.

The cord 3 connects the end of bracket 21 with a trigger 22. The trigger 22 has a slit 23, which traps one of several knots 24 in the cord 3. In this way allowance is made to alter the length of the cord 3 when the pole 1 105 is lengthened, or when the cord becomes stretched. The trigger is covered by a tube 25.

A handle 26, shaped to prevent a hand from slipping off it, is fitted to the tube 5, adjacent to the trigger 22. This enables the tool to be used with one hand.

110 Figure 2 shows a two-handed embodiment of the invention. One hand holds a handle 30 on a pole 31. The other hand holds a handle 32 which can slide on the pole 31, and move a rod 32 to operate a gripping means 33 taking a similar form to that shown in Figure 1. A rod 32 may be adjusted by means of two nuts 34 115 screwed onto the rod. The gripping means is operated by pulling on the handle 32, which is the natural motion when lifting the tool.

In yet another embodiment of the invention, the pole 120 1 is bent in one or more places so that a digging action

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The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1982.

can be more easily achieved, and the tool presents a better angle to the ground.

#### CLAIMS

1. A gardening tool comprises a pole, a digging means and a gripping means, there being an operating means remote from and coupled to the gripping means by a connecting means.
2. A gardening tool as claimed in Claim 1 wherein the length of the pole is made adjustable.
3. A gardening tool as claimed in Claim 1 or Claim 2 wherein the pole is constructed to take a cuff, so as to provide extra support when lifting the tool.
4. A garden tool as claimed in any preceding claim wherein the digging means comprises one or more tines attached to the end of the pole.
5. A garden tool as claimed in Claim 4 wherein one or more of the tines are set at an angle to the centre-line of the pole.
6. A garden tool as claimed in Claim 4 or Claim 5 wherein the ends of the tines are shaped into a rounded point.
7. A garden tool as claimed in any preceding claim wherein the gripping means comprises two or more parts which may be caused to come together.
8. A garden tool as claimed in Claim 7 wherein the tines are used also for the parts of the gripping means.
9. A garden tool as claimed in any preceding claim wherein the gripping means operates in a different plane from the digging means.
10. A garden tool as claimed in Claim 9 wherein there is a ninety degree angle between the planes of operation.
11. A garden tool as claimed in any preceding claim wherein the operating means comprises two pieces which are moved relative to each other in order to remotely operate the gripping means via the connecting means.
12. A garden tool as claimed in Claim 11 wherein the two pieces comprise a pistol grip and trigger.
13. A garden tool as claimed in Claim 11 wherein the two pieces comprise two handles, one fixed to the pole and one sliding parallel with the axis of the pole.
14. A garden tool as claimed in Claim 11 wherein the two pieces move relative to the pole, and move relative to each other.
15. A garden tool as claimed in any preceding claim wherein an additional structure is fitted near the digging means, which may be used as an aid when digging or levering.
16. A garden tool as claimed in Claim 15 wherein the structure takes the form of a bracket to be used as a fulcrum.
17. A garden tool as claimed in Claim 15 wherein the structure allows another tool, such as a rake or a hoe, to be fitted.
18. A garden tool as claimed in any preceding claim wherein the connecting means consists of a cord stretched between one or more parts of the gripping means and one or more pieces of the operating means.
19. A garden tool as claimed in any of Claims 1 to 17 inclusive, wherein the connecting means consists of a rod, the operation of the connecting means may then be by the rod taking compression or extension forces.

20. A garden tool as claimed in Claims 18 or 19 wherein an adjusting means is provided so that the length of the connecting means can be altered.

21. A garden tool as claimed in any preceding claim wherein the pole is bent in one or more places.

22. A garden tool substantially as described herein with reference to Figures 1 or 2 of the accompanying drawings.

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